TAT-02-F-06211

PROJECT SAMPLING PLAN II

IDEAL COOPERAGE SITE

JERSEY CITY, HUDSON COUNTY, NEW JERSEY

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PROJECT SAMPLING PLAN II
IDEAL COOPERAGE SITE

1. PROJECT NAME: Ideal Cooperage Site
   3-25 New York Avenue
   Jersey City, Hudson County, New Jersey

2. PROJECT REQUESTED BY: J. Daniel Harkay, On-Scene Coordinator (OSC), Response and Prevention Branch, USEPA

3. DATE REQUESTED: October, 1989

4. DATE OF PROJECT INITIATION: March, 1991

5. PROJECT OFFICER: Peter Di Pasca, Jr., TAT Region II

6. QUALITY ASSURANCE OFFICER: Edward Twilley, ERCS Region II

7. PROJECT DESCRIPTION:

   A. SITE BACKGROUND

   The Ideal Cooperage site is located at 3-25 New York Avenue in Jersey City, Hudson County, New Jersey. Figure 1 provides a site location map. The approximately 2-acre site is situated in an industrial section of the city. The site is bounded on the north and west by New York Avenue, on the south by the Erie-Lackawanna Rail Line and on the east by a developed lot. The property is relatively flat and elevated, with the northern, eastern and southern perimeters sloping downward toward the property line. Figure 2 provides a site map. The ground consists of loose soil with low brush and some small trees.

   During the 1970s, Ideal Cooperage, Inc. used the site as part of their drum reconditioning operations. Although the actual rinsing and reconditioning of the drums were performed on an adjacent lot, empty drums were stored on this site. In the fall of 1981, Ideal Cooperage ceased operations and abandoned both properties. The property on which the processing took place was eventually sold and redeveloped; however, the lot which was used for storage still remains abandoned.

   Assessments performed by the New Jersey Department of Environmental Protection (NJDEP) and, more recently, by the USEPA Technical Assistance Team (TAT) have determined that approximately 600 drums remain on-site. Most of these drums are empty, but about 10% contain material. Since many of the drums containing liquid are upright and missing bungs, the liquid may be rainwater. A majority of the empty drums are severely deteriorated and appear to have been on the property for several years. A subsurface soil investigation conducted

several years ago by a private consultant detected low levels of toluene, perchloroethylene, and petroleum hydrocarbons. In addition, buried drums may be present on the site.

The site had been used in recent years as an illegal dumping ground for household garbage, construction debris, and abandoned automobiles. Seventeen rolloff containers of solid waste were once cleared from the site, but lack of security made it impossible to keep the property free of trash. In April 1989, the Jersey City Department of Engineering performed renovations on the section of New York Avenue bordering the site. Included in these renovations were the installation of sidewalks, guard rails, and a chain-link fence along the northern and western borders of the site. Although these improvements have prevented the dumping of trash and debris onto the site, the property is still frequented by trespassers. Neighborhood children have also used the site as a playground, and had even built a "fort" using empty drums.

B. OBJECTIVE

The purpose of the sampling program is to determine the types of hazardous substances present on the parcel of land formerly occupied by Ideal Cooperage, Inc. The field program will include collection of samples from drummed materials, installation of test pits, and collection of surface and subsurface soil samples. The sampling activities will be performed by the Technical Assistance Team (TAT) under the supervision of the EPA OSC. Samples will be field-screened and/or sent for laboratory analysis. The results of the analyses will be used to establish the presence of hazardous materials and to determine the proper methods of disposal.

C. SCOPE OF WORK

1. Drum Sampling

Drums will be staged and segregated on-site according to the solid and liquid characteristics of the drummed material. Recent field observations and on-site testing of drum samples have tentatively identified the contents of several drums. Most of the solid material appears to be a waxy, organic substance, while the majority of the liquids are aqueous. Other drums which were field-tested are believed to contain acetic acid and surfactants. It is estimated that 25-30 drums contain solid material, and 25-30 drums contain liquid material.

One (1) sample per drum will be collected and field-screened to determine waste classifications. Field tests will include water and hexane solubilities, pH, ignitibility and oxidizer tests, and HNu-PID screening. After all drums have been

screened and characterized, composite samples will be developed to verify compatibility. Compatible material will then be bulked, sampled, and sent to an EPA-certified laboratory for analysis. At the completion of the sampling, the drums will be covered with plastic sheeting and secured to prevent rainwater infiltration and vandalism.

2. Test Pit Investigation

To determine if drums are buried on the site, a total of six (6) test pits will be excavated. The approximate locations of the test pits are shown on Figure 3. Actual test pit locations will be determined in the field, based on field observations and topographic conditions. The test pits will be excavated to a depth of 16 feet below the surface. If drums or immovable objects are encountered during the test pit excavation, soil removal will stop, and the excavation will be backfilled. A second test pit will be attempted adjacent to the original excavation. As the test pits are excavated, the subsurface soil will be field-scanned with a photoionization detector (HNu-PID) to determine the presence of volatile organic compounds.

One (1) soil sample will be collected from each test pit location prior to excavation at a depth of 0-0.5 feet. Additional soil samples will be collected from the test pits at depth if contaminated soil or buried drums are encountered, or if HNu readings indicate the presence of volatile organic compounds. Following completion of the subsurface investigation, the test pits will be backfilled. All soil samples will be sent directly to a laboratory for analysis.

3. Sample Analysis

Drum samples will be analyzed for disposal characteristics which include Target Compound List (TCL) and Toxicity Characteristic Leachate Procedure (TCLP) parameters. Soil samples will be analyzed for TCL parameters. The proposed analytical parameters are summarized in Table 1. All sample collection activities will be conducted in accordance with the sampling and quality assurance/quality control (QA/QC) procedures presented in Sections 10 through 13 of this report.

TABLE 1 - ANALYTICAL PARAMETERS

Parameter	# Of Samples	Sample Matrix*	Analytical Method**	Sample Preservation	Holding Time	Volume
Volatiles	6-18	Soil	8240	None	10 Days	2 x 120 ml
Extractables: BNAs	6-18	Soil	8250	None	Extract 10 Days	8 oz
PCB/Pesticides	6-18	Soil	8080	None	Extract 10 Days	Incl. w/ BNA
Total Metals	6-18	Soil	7000	None	6 Months	8 oz
Volatiles	1-2	Aqueous	624	Cool to 4°C HCl to pH < 2	10 Days	2 x 40 ml Vial
Extractables: BNAs	1-2	Aqueous	625	Cool to 4°C	Extract 5 Days	4 x 1 L Amber Glass
PCBs/Pesticides	1-2	Aqueous	608	Cool to 4°C	Extract 5 Days	Incl. w/ BNA
Total Metals	1-2	Aqueous	200	Cool to 4°C HNO_3 to pH < 2	6 Months	1 L Poly
TCLP	1-2	Aqueous	1311	Cool to 4°C	Extract 14 Days	2 x 1 L Amber Glass
Volatiles	1-3	Solid	8240	None	10 Days	8 oz
Extractables: BNAs	1-3	Solid	8250	None	Extract 10 Days	Incl. w/ VOA
PCBs/Pesticides	1-3	Solid	8080	None	Extract 10 Days	Incl. w/ VOA
Total Metals	1-3	Solid	7000	None	6 Months	8 oz
TCLP	1-3	Solid	1311	None	Extract 14 Days	2 x 8 oz
Volatiles	1-3	Liquid	8240	None	10 Days	8 oz
Extractables: BNAs	1-3	Liquid	8250	None	Extract 10 Days	Incl. w/ VOA
PCBs/Pesticides	1-3	Liquid	8080	None	Extract 10 Days	Incl. w/ VOA
Total Metals	1-3	Liquid	7000	None	6 Months	8 oz
TCLP	1-3	Liquid	1311	None	Extract 14 Days	2 x 8 oz

Note: * = Soil and Aqueous Samples: Low Concentration
Minimum Detection Level: 5 ppb
Solid and Liquid Samples: High Concentration
Minimum Detection Level: 1 ppm

** = 3-Digit Methods: MCAWW
4-Digit Methods: SW-846

8. PROJECT FISCAL INFORMATION:

Sampling equipment and manpower will be provided by the Technical Assistance Team (TAT) contractor in coordination with the USEPA. All man-hours expended by TAT will be charged to Technical Direction Document (TDD) # 02-9010-0065. Drum handling and test pit excavation equipment will be provided by the Emergency Response Cleanup Services (ERCS) contractor in coordination with the USEPA. All man-hours and costs expended by ERCS will be charged to Delivery Order (DO) # 0102-02-016. Laboratory analysis will be also be arranged and paid for by the ERCS contractor.

9. PROJECT ORGANIZATIONS AND RESPONSIBILITY:

The following is a list of key project personnel and their corresponding responsibilities:

J. Daniel Harkay, USEPA	Project Director / OSC
Joseph Rotola, USEPA	Alternate OSC
Edward Twilley, ERCS	Drum Segregation and Bulking Test Pit Investigation Laboratory Coordination Analytical Data QA/QC
Peter Di Pasca, TAT	Drum and Soil Sampling Sample Field Screening Test Bulking

10. SAMPLING PROCEDURE:

The sampling procedures for each area are as follows:

A. Soil Sampling

Surface samples will be collected with stainless steel trowels. Subsurface samples will be collected directly from the backhoe bucket using stainless steel trowels. No personnel will enter an excavation. The following decontamination procedure will be followed after collection of each sample:

a. Wash and scrub with soap and water;
b. Tap water rinse;
c. Rinse with 10% HNO_3;
d. Tap water rinse;
e. A methanol followed by hexane or acetone rinse;

f. Deionized water rinse;
g. Air dry.

If disposable plastic scoops are used in place of stainless steel trowels, the scoops will only be used once and discarded with personal protective equipment (PPE).

B. Drum Sampling

All closed drums will be carefully opened with non-sparking tools. Liquid samples will be extracted with disposable glass drum thieves. After each drum thief is used, the glass tube will be removed from the drum for subsequent disposal with a solid hazardous waste stream. Solid samples will be taken with disposable plastic scoops or stainless steel trowels. If a thief or a scoop cannot be used, an appropriate alternative method will be used which will not affect the integrity of the collected sample.

NOTE: If more than one liquid phase is observed in the glass tube during liquid drum sampling, samples of each phase will be collected using the same method and placed in separate sample containers for analysis.

Sample containers have been specialty-cleaned by I-Chem Research, Inc. Collected samples will be individually labelled in the field, placed in ziplock plastic bags, and stored in coolers (with ice packs if necessary) until delivery to the laboratory. The field team will also be responsible for preparation of the proper Chain-of-Custody form before transferring the samples to the laboratory. All samples will either be shipped to the laboratory by TAT or mailed via Federal Express following the proper DOT regulations. This will include the use of coolers, paint cans, and vermiculite.

These sampling procedures will adhered to where practical, but may need to be modified based upon field evaluations. Any deviations from the above methods will be noted in the final report.

11. SAMPLE CUSTODY PROCEDURES:

EPA Chain-of-Custody will be maintained throughout the sampling program as per TAT Standard Operating Procedures (SOP) on sample handling, sample container contract specifications and EPA Laboratories SOP. The Chain-of-Custody form to be used lists the following information:

i. Sample number;

ii. Number of sample containers;

iii. Description of samples including specific location of sample collection;

iv. Identity of person collecting the sample;

v. Date and time of sample collection;

vi. Date and time of custody transfer to laboratory (if the sample was collected by a person other than laboratory personnel);

vii. Identity of person accepting custody (if the sample was collected by a person other than the laboratory personnel);

viii. Identity of laboratory performing the analysis.

12. DOCUMENTATION, DATA REDUCTION AND REPORTING:

Field data will be entered into a bound notebook. Field notebooks, field data sheets, Chain-of-Custody forms, and laboratory analysis reports will be filed and stored per the TAT Document Control System.

13. QUALITY ASSURANCE AND DATA REPORTING:

The level of quality assurance to be furnished by the contracted laboratory will be equivalent to QA-2 and will, at a minimum, consist of the following measures to ensure accurate data:

1. One field blank consisting of organic-free water will be shipped to the laboratory. This blank is to be analyzed to ensure that field contamination has not occurred.

2. A trip blank will be supplied for volatile organic analysis to verify that samples had not been contaminated during shipment.

3. One blind duplicate for every 20 samples of each matrix will be submitted to determine analytical precision. Results will be documented and submitted in the written report.

4. Matrix spike and matrix spike duplicate analysis will also be performed on one sample for every 20 samples of each matrix. Triple volume will be collected.

5. The contracted laboratory will also furnish the following deliverables as warranted:

a) GC/MS tuning and calibration standards;

b) Copies of all spectral data obtained during performance of analysis. Copies should be signed by the analyst and checked by the Laboratory Manager;

c) Data system printout (quantitation report or legible facsimile (GC/MS));

d) Manual work sheets;

e) Identification and explanation of any analytical modifications used that differ from USEPA protocol.

All results are to be completed and a verbal and/or written report submitted by the laboratory to the ERCS Analytical Data QA/QC officer. Turnaround times for verbal and written reports are to be arranged by ERCS and the contracted laboratory.

14. DATA VALIDATION:

All steps of data generation and handling will be evaluated by the Project Officer and the Quality Assurance Officer for compliance with the specified requirements.

15. SYSTEM AUDIT:

The QA/QC Officer will observe the sampling operations and review the subsequent analytical data to assure that the QA/QC project plan has been followed.

16. CORRECTIVE ACTION:

All provisions will be taken in the field and laboratory to ensure that any problems that may develop will be dealt with as quickly as possible to ensure the continuity of the sampling program. Any deviations from this sampling plan will be noted in the final report.

17. REPORTS:

Laboratory results and all requested QA/QC information will be submitted to EPA upon completion of sample analyses. Sampling reports will be issued after receipt of laboratory results.